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American Childhood Education Workshop.
8th, University of Kansas, 1954.
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Fundamentals for Children in Our Time

Art
Music
Science
Arithmetic
Social Studies
Physical Education
the English Language Arts

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FOREWORD

The theme chosen for the Eighth Annual American Childhood Education Workshop held at the University of Kansas from June 9-19, 1954, was "Fundamentals for Children in Our Time." Usually a summary of the highlights of the A.C.E. Workshop is published in mimeographed form. However, the theme this year was considered to be so important that Dean Anderson suggested that we devote one issue of *Kansas Studies* to it. Accordingly, we are presenting major portions from the main addresses given at the general assemblies for all participants.

The staff this year was augmented by three visiting faculty members: Professor Raoul Häas, who served as Director of the Workshop, Dr. Mallinson, the consultant in science, and Miss Senti, consultant in art. All other consultants are regular members of the staff of the School of Education at the University of Kansas.

It is our hope that the following articles will be of value not only to those who attended the workshop meetings but to others as well who have often asked the question, "What are the fundamentals for children in our time?"

The Editor

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THE UNIVERSITY OF KANSAS SCHOOL OF EDUCATION

Dean, School of Education ..... Kenneth E. Anderson

Editor, *Kansas Studies in Education* ..... Oscar M. Haugh

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Fundamentals for Children in Our Time

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All of us are concerned about our schools. We are concerned because we are a part of them—we are teachers. Some of us are concerned because we are parents, too; and *our* children are in *our* schools. The teacher shortage and the classroom shortage are factors in our concern, but this is not all: we are concerned that the public interest in the schools—which is particularly American—appears in recent years to be increasingly hostile toward them as institutions for the promotion of the general welfare in American democracy.[1]

Genesis of the Fundamentals

Historically, the American people have been concerned with education since the earliest settlers arrived in their quest for religious, political, and personal freedom. The fundamental purpose of the early Protestant sects in teaching all to read was to insure salvation through an individual reading of the Bible. Soon it became evident that one would need to know how to write, too, since there was no other way in a sparsely settled land to communicate with people at a distance. And one needed also to learn to work with simple numbers to carry on the daily business of living. Thus the evolution of the three R's in our schools, those tools which many still consider the only fundamentals and the main objective of the instructional program in the elementary school.

Reflect but a moment, however, and one observes that in the two hundred and fifty years or so of our national existence, the United States has changed. No longer are we a pioneer country. No longer is ours a simple agrarian economy. In a broader sense, as we have changed so has the world. In this different world, we still send our children to school. They must still learn to read, write, and use numbers. But these are not enough. The three R's are no longer sufficiently inclusive to help us survive in a changed and changing world.

The Challenge Today

The problem we have posed at this, the Eighth Annual American Childhood Education Workshop, is a consideration of the fundamental learnings which are essential to the preservation and perpetuation of our American ideals in our time.

Education—here used to denote only that body of learnings which society has delegated to the schools as the most effective agent for its preservation—has always been determined by the values of a given people in a unique time and place. These values evolve, and, as pointed out in a significant monograph published sixteen years ago by the Educational Policies Commission of the National Education Association:

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[1] See Bestor's *Educational Wastelands,* for example, and the particularly intemperate series of articles by Howard Whitman in *Collier's Magazine.* As a healthy counter-irritant, Paul Woodring's *Let's Talk Sense About Our Schools* is heartily recommended.

> . . . they reflect and interact with the purposes which permeate the life of the people. In each of the phases of individual and social living, there are elements which people commend, others which they condemn. Such judgments are based, in the last analysis, on moral standards or ideals. That which out of their intelligence and experience, the people declare to be good, they will attempt to maintain and perpetuate for the benefit of their children and their children's children. They strive through education to transmit what they think is good to all the generations to come.[2]

If we accept, then, as fundamentals those ideals which have evolved in democratic America, we have a standard of sorts for examining the problems of fundamental learnings in our time. Since there is no universal agreement concerning democratic standards and ideals, the solution is not simple. The statement of the Educational Policies Commission required a volume for definition and illustration of the purposes of education in American democracy. The unique educational purposes of the school were identified as fourfold:[3]

1. *The Objectives of Self-Realization*—the person himself.
2. *The Objectives of Human Relationship*—each person's relationships to others in home and community.
3. *The Objectives of Economic Efficiency*—the creation and use of material wealth.
4. *The Objectives of Civic Responsibility*—each person's socio-civic responsibilities.

As early as 1860, Herbert Spencer stated his educational objectives—his fundamentals—in five categories:

1. Self-preservation.
2. Securing the necessities of life.
3. The rearing and discipline of offspring.
4. The maintenance of proper social and political relations.
5. The activities which make up the leisure part of life, devoted to the gratification of the tastes and feelings.[4]

Many such statements have appeared since Spencer's, one of the most notable being the "Seven Cardinal Principles," which was announced in the report of the Commission on Reorganization of Secondary Education of the National Education Association in 1918. These were:

1. Health.
2. Command of the fundamental processes.
3. Worthy home-membership.
4. Vocation.
5. Citizenship.

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[2] *The Purpose of Education in American Democracy*. Educational Policies Commission, Washington, D.C., 1938. pp. 1-2.

[3] *Ibid.*, p. 47.

[4] *Ibid.*, p. 43.

6. Worthy use of leisure.
7. Ethical character.[5]

Identifying the Fundamentals in Our Time

In our day, a report prepared for the Mid-Century Committee on Outcomes in Elementary Education, by Nolan C. Kearney, describes the measurable goals of instruction in our American elementary schools. This report, with primary emphasis on behavioral goals, identified desirable, attainable objectives within a democratic American context. Many pertinent questions about schools and schooling are asked:

1. About the health, safety, and physical development of our children.
2. About the social and emotional development of children.
3. About the ethical behavior, personal standards, and moral values of children.
4. About the ability of children to assume leadership, to choose leaders wisely, to work in teams in their neighborhood, communities, and states.
5. About producing citizens who are valuable in their home, school, and community today and who will be good neighbors, good community, and good American citizens in the world of tomorrow.
6. About growth in knowledge of the physical world of plants and animals, nature, science, conservation, machines.
7. About the esthetic development of children—both as consumers and producers, as enjoyers and creators—in art, literature, music, drama, radio and television, crafts, home and community beautification.
8. About competence in communication with other people through speaking, listening, reading, and writing.
9. About the ability of children to count, measure, compute, estimate, and reason as they think quantitatively.[6]

The function of the Mid-Century Committee was to seek answers to some of these questions. Recommended goals—fundamentals, if you will—were compiled by our most respected scholars and classified under nine educational objectives:

1. Physical development, health, body care.
2. Individual social and emotional development.
3. Ethical behavior, standards, values.
4. Social relations.
5. The social world.
6. The physical world.
7. Esthetic development.
8. Communications.
9. Quantitative relationships.[7]

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[5] *Ibid.*, p. 44.

[6] Nolan C. Kearney. *Elementary School Objectives*. Russel Sage Foundation, New York, 1953. pp. 42-43.

[7] *Ibid.*, p. 35 and pp. 52-120.

If it were possible to give a final answer to the problem of the fundamentals in our time, and the Committee makes no claim to having done so, our concern about our schools would be immeasurably lightened. When we attempt to say or write what it is we expect our children to gain from their school experiences, our answers are frequently vague, tenuous, broad generalizations, or personal prejudices. What *do* we expect children to learn in school? The fundamentals! But what are the fundamentals for children in our time?

Social Change Implies a Broader Concept of the Fundamentals

If we accept the premise that educational fundamentals reflect the standards and ideals which have evolved within a given society, then we will need to note some of the changes in our society which make necessary a broader concept of the fundamentals for our time.

The changes which have and are taking place in the United States can be ascertained by the most casual observer. The tempo of change has accelerated within our own lifetimes and as the mere business of living from day to day becomes more complex, countless new demands are made upon our schools. We have experienced an exponential growth in the production of radios since the crystal sets of 1923 and of passenger cars since 1905. We are now experiencing perhaps an even more rapid growth with regard to television. What we learn from this is that the development of an industry from a zero point to a point of near-saturation covers a period of time smaller than that during which any youth is required to attend school. Thus, each individual emerges from school into a world whose technological development and political and social organization differs considerably from that of the world into which he was born.

It is not possible to mention all of these in a single list, as Kearney points out, "for they are found in every aspect of living — in all our sciences and arts, in all our social institutions, in our language and all our methods of communication, in our jobs, in our recreation, and in many of our ways of thinking and feeling."[8] In the schools, too, the effect of change is seen in the content taught.

> The child who "took" American history in 1910 found that his textbooks ended at a point just beyond the Spanish-American War. After that came the Hague, World War I, the League of Nations, 1929 prosperity, the great depression, World War II, the United Nations, and the war in Korea. Since 1910 there have been Fascism, Hitlerism, Bolshevism, and Communism on the international scene, and the disappearance of the frontier, the growing need for conservation, the growth of government, and thousands of other new issues on the national and state levels.[9]

Perhaps we can best understand what we mean by the fundamentals for children in our time if we think about adult needs in daily living. We have seen that we are living in an age increasingly complex. It is fundamental that we learn the tools—the three R's—but perhaps even more fundamental that we comprehend what we read and that we develop skill in reading critically and with discrimination. We

[8] *Ibid.*, p. 15.
[9] *Ibid.*

must still write, but it is what we write rather than how it looks that is important. In an age of machines, the skill required in typing may perhaps be more fundamental than penmanship!

This is the atomic era. A knowledge of modern science is fundamental in our time, not only for survival but for competence in daily living. And for survival, too, is not the ability to live with others a fundamental skill?

In this workshop we shall consider only indirectly the influence of the home and community in the development of fundamental learnings. Our schools are not responsible for, let us suggest, the toilet training of children. Yet this learning, surely, is one of the fundamentals! The school — the public school, at any rate — cannot indoctrinate in religious concepts if we are to preserve our traditional freedom of worship and belief. Yet an ethical culture is as fundamental for adult living as the ability to perform the traditional three R's.

It has been pointed out that there has been, in recent years, a certain hostility toward the schools as they have attempted to evolve a program of fundamental learnings for children based on our increased knowledge of human growth, development and resultant behavior. Many of these attacks have a legitimate basis; others are perhaps due to the discomfort resulting from the need for continuous adjustment to a changing world.

The Continuing Challenge

We do not expect, as we work together in our special interest groups, to achieve the final solution to the problem of identifying the educational fundamentals for children in our time. Yet it is hoped that as we work in the curriculum areas of the language arts, of numbers and science, of the social studies and esthetics, and of physical education that we will develop attitudes and understandings which will give us, as teachers, security in the knowledges and skills we do possess; and the wisdom to accept and face unafraid our ignorance. May we submit that our first step will involve a recognition of the need for a broader concept of the fundamentals?

Here we must pause to ask what is to distinguish the fundamentals from the objectives, aims, or purposes in education? We have tended to think of the three R's for example, as something apart from the goals of education. We have thought of them as something fixed and immutable, as subjects rather than as tools or skills. In the final analysis, however, we have seen that the genesis of reading as the first of the three R's lay in a social purpose. Thus, the fundamentals as commonly accepted, the reliable and permanent three R's, had a social beginning and were assigned values by a people in a particular time and place; a people, time and place now of the stuff of history.

It would appear to us that this Workshop may be especially fruitful in helping us to find answers to some of the questions implied in a broader concept of the fundamentals.

What, then, are the fundamentals for children in our time?

In a word, everything is fundamental which, when learned through any medium by a given person in his unique time and place, tends to make him human!

Fundamentals in Art

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It is commonly thought that the most important reason for teaching art is to teach children to draw. At the elementary level this is not true. The five principal reasons why we teach art are as follows:

1. **Emotional Outlet:** The emotional outlet that a child receives in art activities is more important than artistic performance, for it serves as a release from tension. It is good for the mind; it is good for the soul.

2. **Social Worth:** Art helps to make us intelligent consumers, that is, it helps us to select clothing that gives lasting satisfaction and to arrange our homes to secure visual comfort.

3. **Recreation:** In this machine age we need worthy use of leisure time. A child interested in a hobby is less likely to be delinquent. There are many types of hobbies that can be developed in a complete art program.

4. **Appreciation:** We need appreciation not only of good pictures but also of the beauty God has placed around us to enjoy in everyday life. When we look at a tree closely enough to try to draw it, we observe beauty that we have probably never before noticed. By working with the artist's materials, we gain in appreciation of an artist's work.

5. **Vocation:** Few will ever sell pictures or become commercial artists, but art is used in every occupation including that of the businessman, school teacher, doctor, and architect.

Fundamentals for Teaching Creative Art Effectively

The most important fundamental that we as teachers need to develop is the technique of releasing the creativeness of children. It is necessary to consider three basic techniques in order to solve this problem: how to stimulate the child, how to encourage him, and how to criticize his work.

1. **Stimulating the child:** We do not need to know how to draw well ourselves. We do need to know how to stimulate children to want to draw and we need to know the principles of art.

In the first place, children must have something in mind to draw. The ideal time for a drawing lesson is after the children have had an experience such as seeing a parade or a program, seeing men and machines at work near the school, seeing a movie, hearing a story, or taking a class trip. Children can not be expected to draw crocodiles if they have never seen crocodiles. Neither have they any interest in drawing Greek towns if they have not at least studied or learned something about such places.

It is important that children be given the opportunity to draw things with which they are familiar. Subjects that are suitable would be such as, My Home, Helping Mother, Helping Father, Our School, Walking to School, Our Playground, and Community Helpers, such as the mailman, milkman, policeman and fireman.

Before the children begin to draw or paint, the teacher should lead a lively discussion on some particular subject that they would like to paint that day. To say, "You may draw anything you want to today," is not teaching creative art; it is just wasting time. Some misinterpret teaching art creatively to mean passing out paper and expecting the children to "now create." The important thing to remember is that it is up to the teachers to provide the stimulation.

2. **Encouraging the child:** Children usually draw things small; therefore, encourage them to draw large—to "bump" the edges of the paper. Praise the child who has drawn something large, and others will try also. Almost all children stop drawing before the picture or design is finished, that is, before the page is filled. The teacher should be there to encourage by asking leading questions. An example would be such as, "What would be behind the children on the playground?" "What other animals would you see in a farm yard?"

Allow plenty of time for the art lesson. Good pictures with much detail cannot be colored in a few minutes. Hold up and praise the work of children who have used dark and light colors, repeated colors, and have colored heavily.

It is important to remember that any child who tries deserves praise. A child who does good work but does not try does not deserve praise. A child who is doing poor work but who is doing his best should be praised. Of course it is a mistake to go up and down the aisles praising everyone when they are scribbling. The teacher should insist that children draw and paint carefully.

3. **Criticizing the work of the child:** We should be able to find something good about every picture. Do not permit the children to make more than one suggestion for the improvement of a picture that a child has made. Too many suggestions make the child discouraged. The child should be happy with his picture, and if he is happy he is more likely to try again and to do better. It is unwise to attempt to have all the children show their pictures every time for comment.

The important fundamental that we must remember here is this: it is not what a child does with art materials but what experiences with these art materials do for him that should concern us as teachers.

Using the Principles of Art

It will probably be of value to the reader to review briefly the principles of art before considering ways of using them in the classroom. Stated briefly, the principles are as follows:

1. **Dominance or Emphasis:** Pictures and designs should have one part that is the most important. This part should be drawn or painted first. It should be large and toward the center of the page. It is called the center of interest.
2. **Balance:** The picture should be as heavy on one side as the other. If children are encouraged to fill the paper it is almost always well balanced.
3. **Rhythm:** Colors and shapes should be repeated throughout the composition.
4. **Variety:** Too much repetition becomes monotonous.
5. **Unity:** Add connecting lines so that the picture or design will hold together. The connecting lines might be fences, roads, telephone poles and telephone lines, sky lines, mop boards, or even people or buildings grouped together. Some connecting lines are invisible.

One of the problems facing the art teacher is teaching the drawing of figures. It is wise not to labor over stick figures or ovals. Use the natural method which is an outline of the individual including his clothing. Using a child as a model, call attention to where the arms are connected to the body and how a persons looks when running, playing or in some other position. Encourage the children to add pockets, buttons, suspenders, collars, ruffles and other details to make the picture better.

Older children will profit by drawing occasionally while a boy or girl poses. The primary grades will observe but the model might just as well go back and draw

too, as they will go ahead and draw the way they want to without looking at the model again. To add interest, the model might put on a raincoat and carry an umbrella, dress in a foreign costume, or pose with athletic equipment. It is fun to draw figures at Hallowe'en time while the children are in costume.

Another problem facing the art teacher is that of handling perspective. The present trend is not to teach formal lessons in perspective, for pictures drawn in true perspective look stiff. The general rule to follow is that things in the foreground are large; things in the background are small and higher on the page. The part of a building that is in front should be larger if drawn in perspective.

Houses are pretty much the cracker-box type until the children are encouraged to add porches, shutters, steps, upstairs windows, and other details. Little children might be asked to draw their own homes. Older children will appreciate the opportunity to go out of doors and draw buildings that they see or to draw houses they can see from the window. Here the teacher will be likely to note an amazing improvement in the child's drawing, for at this age they can draw what they see so much better than they can draw from imagination and memory.

It may be of value, at this point, to review some of the principles concerning color. The primary colors are red, yellow and blue. We cannot make these colors by mixing other colors. By mixing these three primary colors and with the addition of the neutrals, black and white, we can make all the other colors as follows: red and blue make purple; red and yellow make orange; blue and yellow make green; red and orange make red-orange; orange and yellow make yellow-orange; and so on around the color wheel.

Colors next to each other on the color wheel stay bright when mixed. Colors across from each other are called complementary colors and they tone down or make the other colors less bright. Equal parts of complementary colors, sometimes called opposites, will make gray or brown. Complementary colors can be used in good taste by using much of one and little of the other or by toning them down. It is a good idea to experiment with color; use bright and dull colors together; also, try using colors of different value (light and dark). Much can be learned also by observing beautiful color combinations in nature as well as in pictures.

Teaching Art Appreciation

The teacher must be aware of the fact that teaching art involves more than production of art objects and materials. It is important that children learn to appreciate good art. For those who are not skillful in production, art appreciation is even more important.

In teaching art appreciation the teacher should call attention to beauty in trees, clouds, flowers and the beautiful colors in nature. She should show children good art prints or originals. Prints may be arranged on the bulletin board or displayed in frames that will permit a frequent change of picture. It is a good idea to tell the children interesting things about the picture and artist if possible, but do not bore them with long study which may lead them to dislike the picture instead of enjoying it. The important thing is to expose the children to good art. If they are given the opportunity to see and live with good art they will learn to enjoy it naturally.

Old, faded pictures in ugly, dark frames should be removed from the room. Fresh new prints can be purchased for $3 to $18 from Artext Prints in Westport, Connecticut. Frames can easily be cleaned and made lighter by painting them with

white Kemtone and tinting with water color. The toned down water color should be rubbed on sparingly with a cloth and then shellac and steelwool should be applied. Refinished old frames can be put to good use by displaying good children's work in them.

It is important that pictures are hung low. If there is no space except up by the ceiling, it is just as well not to have a framed picture in the room. In such cases it would be better to hang the pictures in the hall where they can be enjoyed.

The Harmful Effects of Patterns

Patterns have no place in the creative art lesson. To trace around a pattern requires no thinking; it is merely killing time. Some believe that children can learn to draw by tracing patterns. Instead, the child learns to depend upon patterns, and the pattern then becomes a kind of crutch.

It is also harmful to copy a picture even though it is drawn free-hand. Copying a picture step by step that the teacher draws on the blackboard also hinders the child's development and it hampers his creativeness. It certainly does not permit him to organize his own ideas.

Art Materials

Children should be given the opportunity to work with different materials. This alone stimulates new interest and it gives all a chance to be successful. Quite often a child who cannot draw very well will be the best finger painter or weaver in the class.

Tempera paint is probably the best creative art medium. The rich color is very effective for murals as well as for large individual paintings on 18″ x 24″ newsprint painted with large brushes.

Crayons are clean and ever ready. If used heavily, the results are beautiful. Do not draw with pencil first. We should not neglect other media because of the convenience of crayon. Other good media are chalk, colored paper, water color, oil clay, plain clay and papier-mache.

Children love to make designs. There are many different kinds: repeat, free, bisymmetric, batik, squared paper, plaid, stencil, and potato print. Instruction can be found in art education books and magazines. Do not be afraid to try. You will be surprised to see how well the children can do!

Recommended Books

1. Chase, Alice E. *Famous Paintings, an Introduction to Art for Young People.* Platt and Munk Co., New York. 1951.
2. Cole, Natalie R. *The Arts in the Classroom.* John Day Co., New York. 1940.
3. Ellsworth, Maud. *Growing with Art,* Books I-VIII. Benjamin Sanborn and Co., Chicago. 1950.
4. Gaitskill, C. D. *Art and Crafts in Our Schools.* Charles A. Bennett Co., Peoria, Illinois, 1953.
5. Gaitskill, C. D. *Art Education in the Kindergarten.* Charles A. Bennett Co., Peoria, Illinois. 1953.
6. Gregg, Harold. *Art for the Schools of America.* International Textbooks Press, 1001 Wyoming Avenue, Scranton, Pennsylvania. 1943.
7. Lowenfeld, Viktor. *Creative and Mental Growth.* Macmillan Company, New York. Revised Edition, 1952.
8. Nicholas, Trilling and Lee. *Art for Young America.* Charles A. Bennett Co., Peoria, Illinois. Revised Edition, 1952.

Fundamentals in Music

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The Physiological and Emotional Effects of Music

Today we must recognize that music has its affect upon all of us, whether or not we know anything about the subject or admit its appeal. Studies have shown that certain types of music increase the rate of breathing, or slow it down, hasten or decrease the pulse beat, straighten or relax the posture. Graduate students at the University of Kansas are examining and evaluating the effect of music to stimulate, to relax or to influence in other ways the responses of the individual. Outside of the research laboratory we can see the effect of music upon groups and individuals. In a concert situation when the artist gives an excellent performance of a selection that is well liked, the audience, during the soft passages, becomes quieter and still more quiet, often seeming to suspend breathing as the last soft tone dies away. As a contrast to this mood we have the banning of certain songs or instrumental compositions by political governments because they might inflame the populace to threaten their regime. For example, the playing of *Finlandia* was banned for a time in Helsinki during the Russian occupation. History records many such instances. In school situations the high school and college band is a must to arouse pep, school spirit and enthusiasm for the team.

Use of Music and Its Effect on the Hearer.

Today the large super markets play recorded music not only to make shopping more pleasant for the customer but probably to encourage more lifting of packages from the shelves and increase the number of baskets that roll with greater rapidity through the checking stands. Large banks also provide a musical background for their financial transactions. Their purpose perhaps is to make it easier for the customer to meet his payments or be more generous in his deposits. No research can be cited to show whether the music makes it easier to obtain a loan. Music has helped patients during certain types of operations. During an operation requiring only local anesthesia, the playing of some of the patient's favorite selections and other music, helped him feel less apprehensive and reduced the noise of the drilling into the bone. For many years factories have used music during certain times in the morning and afternoon to help production line workers overcome fatigue periods and work more effectively. The prevalence of juke boxes in the local eating spots and the playing of professional musicians in first-class restaurants testify to the appeal of music for its affect on the diner. Are the schools using music for its fullest possibilities?

The Appeal of Music for All Ages

A fundamental principal that is true today but has also been true for primitive man is the appeal that music has for all ages of people from the cradle to the grave. This fact was brought home to the writer this summer while visiting Woolaroc, a

museum near Tulsa, Oklahoma. On the wall was an Indian cradle board and attached to the headboard was a set of tiny bells that must have tinkled pleasantly for a papoose generations ago. Today, fond parents and relatives give the new baby presents that rattle or tinkle, and young children are fascinated by sounds. Personal recollections of grandmothers and grandfathers who have taken up the study of piano or cello as beginners after their retirement testify to the abiding interest in music, even for those who have not had time for it earlier in life.

Opportunity in Music for All Levels of Intelligence

People of all levels of intelligence can hear *something* when they listen to music. Probably the most simple and obvious level is hearing the beat of the music—its steady rhythm. Next would come the recognition that the rhythm of music changes from beats that are fast to beats that are slow; a still higher level of rhythmic perception lies in recognizing the smooth or legato rhythm as contrasted with jerky or staccato rhythm and then the recognition of the precise rhythm that a selection may use, be it organized in two, three or four beat measure.

Along with the earliest levels of rhythmic perception comes the development of attention to melody. It may first come through the recognition of the sound of familiar voices that speak to the young baby. Then comes the consciousness of sounds that are high or low, loud or soft. Later comes the awareness of groups of sounds making a tune or melody that goes up and down and the child sings simple songs. The child at this stage may be from four to seven years old.

Too early an emphasis on notational details can kill interest even on the part of those who are intellectually equipped. These simplest levels can be achieved during the primary grades through singing, rhythmic movements, playing of simple instruments, listening to music, exploring and creating melody and rhythm. Finally, as a result of many first-hand experiences, children are able to make some generalizations regarding the theory of music. The more intelligent the child the better will he be able to make generalizations and see the value of concepts about music.

The intermediate grades is a place for some attention to higher levels of rhythmic and melodic awareness and the added experience with harmony, but let us not forget that with the wide difference in intellectual capacity in most classrooms more children will prefer to *use* music rather than *analyze* it. This may mean more rote singing than reading for some children. It surely means to this author the reading of new songs with *words first* and *not syllables.* If children can leave the sixth grade with the same love for music they had in grade one they will continue to seek out avenues of growth and participation in the years ahead.

The Wide Variety of Tastes Included in Music

Sometimes we lose the cooperation of children because as teachers we are not sympathetic to their musical interests and ACT as though there were only one kind of music that could be called good and no other should be allowed in our schools. This does not mean that all music is equally good nor is all of it deserving of the same kind of attention.

The first time this problem appears is when children ask to sing a song they have heard on the radio. Does the teacher know the song? Does the teacher think the text

unobjectionable? Then it is better to sing it than to refuse on the score of lack of time for popular songs. We need to recognize that children learn from their total environment and they go through a phase of being exceedingly alert to the latest hits. School music will not be considered "different" and less desirable than music heard outside of school if it reflects some of the best hit tunes of the day.

Children also can listen to and love the more permanent treasures of music that have melodic appeal and rhythmic interest. It is only by hearing the music of great composers in school that some children realize such music exists. The school must make up for the scarcity of it on the airwaves. The growth of record collections in the public libraries where the activity in the classical record department shows much individual interest and initiative is a testimony to the fact that once children become accustomed to the sounds of good music, they continue to carry an interest in good music into their adult lives. As teachers we can present movements from the symphonies and string quartets at the same time realizing that marches and overtures have their place. Tastes are not static. The descriptive music, the short minuets, and waltzes can be enjoyed by all for their pleasant effects; and at other times we may find the same individuals with their interest centered on more complex and serious types of music. There is music for a variety of moods and deserving of degrees of attention ranging from merely light background type of music to that which requires a good deal of concentration because the composer has put so many ideas into it.

The school must provide really good phonographs if the beauty of the recorded instruments is to sound through. Schools can no longer use worn out records played on out-moded machines in this day of high fidelity recordings and fine home receivers with large speakers. To do so is to waste time and defeat the purpose of the lesson which is to increase pleasure in listening and heighten discrimination.

The Monotone—a Misconception and a Misnomer

Every normal child is born with a pair of vocal chords. There are various reasons why people claim and even brag about their inability to carry a tune in a basket. Time nor space will not allow full consideration of the causes, but here are some of the cures and *all normal children can* be cured provided the following conditions are met:

1. A friendly permissive encouraging attitude by the teacher (not fussing, labelling or grouping).
2. Songs that interest the child and are not too high in pitch.
3. Attention on the part of the child to the rise and fall of the melody.
4. Good physical energy; proper food and rest.
5. Freedom from emotional or physical tension.
6. A wide variety of musical experiences in the primary grades with rhythmic response and singing carried on together rather than at separate times of the day.
7. In third grade or above remedial help in singing should be given privately or to small groups for a few minutes for a series of two or more sessions. Older children cannot be helped satisfactorily or adequately while the rest of the class listens. The remedial session must take place where lack of embarrassment and opportunity for concentrated work are assured.

The reasons for finding extra time to help these out-of-tune singers are many. Singing is a social activity and also a medium for expression of emotions. We do not bind up a child's left hand because it is less well coordinated than his right nor do we ask him to sit out during the physical education or playground periods because he cannot run or catch a ball as well as the others. Therefore, since singing is a physical act we must encourage all children to use and develop the voice they have for an acceptable contribution in their group singing and a more effective means for emotional expression. All children want to sing and need to feel secure and accepted. In this day when there is emotional strain in normal living we cannot afford to add to it by perpetuating a system of neglect that makes a child the butt of ridicule from friends and relatives and even from his own children years later because he cannot sing a recognizable tune. Singing in tune is all a matter of the development of attention and coordination. The earlier the grade the easier it is to help the child to establish correct physical habits before emotional blocks affect his response to singing situations.

Music as an Avenue of Emotional Expression

Young children are curious. In music this takes the form of dropping things to *hear* them fall; pounding common articles like spoons, pots and pans. Later children explore the sound of the piano keyboard and although adults may call it noise, to young ears it is music.

Children have fears and moments of anger. Rhythmic response to music or drum beat may encourage children to dramatize the figures or scenes that are fearful. Anger may be expressed harmlessly in vigorous movements that dramatize desired ends. We are told that expressing negative emotions in a harmless fashion leaves the individual released and better prepared to face problems with rational behavior. Teachers therefore should be ready to encourage vigorous and expressive tones and movements where appropriate if music is to be of help and not always chide vigorous actions and loud singing. Children need to let off steam.

Children are sometimes lonely. A boy in fifth grade reported that when he is lonely and has no one to play with he goes to the piano and plays and then he doesn't feel lonely any more.

Children are sometimes cross because they are tired. One girl reported that on long rides in the family car whenever they get cross someone starts singing a song and pretty soon they aren't cross anymore.

Music can heighten a mood or feeling. For example the mood or amount of feeling expressed in *speaking* the words of the fourth verse of America cannot begin to compare with the same words *sung* by the group. Group singing is immeasurably greater in emotional impact than the thoughtful *speaking* of the words. Spiritual expression is possible through the thoughtful singing of songs of God and brotherhood.

Music an Aid to the Classroom Teacher All Day Long

The classroom teacher cannot afford to limit the children's music activities to one twenty-minute period if music is to make its fullest contribution to child growth and development. Confidence, good posture and poise are characteristics of children who

can express their ideas in rhythmic response. Restlessness and bickering can be forgotten in a twinkling by the use of a song. Greater energy can be stimulated for the next subject of study by giving the children some stimulating music through records or piano music and encouraging them to express it with vigorous physical movements. The next subject of study will go much better because of the variety of physical position, greater energy aroused, more vitality due to deeper breathing and freedom from physical tensions. This has been revealed over and over again in the improvement shown in a painting class with a comparison of pictures that were done before and after vigorous ryhthmic response to music. Is it not possible that similar improvements could be found in spelling or arithmetic or language arts? And it might only take *one minute* of music to create the change!

When children are over stimulated there is no quicker way to help them relax than to play music that is quiet and smooth. A recording or song can set the right tone to begin the day. The class can sometimes be brought together in a unity of beautiful sound to give the end of the day a lovely finish and send both the teacher and the children on their way strengthened by the music they had shared through the day.

The Music Teacher and the Classroom Teacher Cooperate for Their Common Goal

Where communities have the services of a music teacher, the classroom teacher should still use music throughout the day to achieve the proper physical and emotional conditions for learning. The music teacher can teach a wide variety of songs for the children to sing in the classroom as needed. The music teacher in addition to guiding the children in how to listen could help find the most suitable types of recordings for the children's needs, and bring them to the classroom to be left there for future use. The classroom teacher could take over the rest of the class while the busy music teacher worked with a few out-of-tune singers somewhere else in the building. The classroom teacher could sometimes take the music lesson for pleasurable singing, listening, rhythms or exploring simple instruments so that the music teacher would have time to look up some special songs, recordings or dances to enrich units in social studies or language arts. The classroom teacher is a great influence in affecting the attitude of the class and its response to music and the music teacher. The music teacher, by offering a wide variety of music experiences, can stimulate response that reveals how children feel and think, grow and learn. The two teachers working together can help each other do a better job in their common purpose of promoting child growth and development.

Fundamentals In Science

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Definition

In a report of this type, it is possible to dwell extensively on a term such as "fundamentals." To avoid wasting time and space, the term "fundamentals" is arbitrarily designated here to mean those learning experiences that help the student participate effectively in the activities which are part of his daily living. In light of such a definition, science is a fundamental.

The Modern Role of Science

One has only to look about him to see the manifold applications of science. The soil, trees, people, buildings, walls, machinery, food and in certain cases the air have all been developed or modified by scientific research or involve the application of scientific principles in their operation or use. If such be true, then all human beings should know something about science. Moreover, in the last few years the place of science in our environment has become even more important. The food industry has been revolutionized by the application of science in freezing, packaging and transporting edible materials. Over half of all prescriptions now sold contain antibiotics—drugs not even commercially available until 1946. Modern homes no longer consist of four walls and a roof designed to repel wolves and rain. They are structures containing intricate scientific mechanisms for heating, cooling, lighting and insulating. Modern wars are no longer battles between massed divisions, but combat among technicians using armaments produced by science.

If all these statements portray correctly the modern role of science, then it would seem that the educational systems in the United States would be producing personnel trained to fulfill the scientific needs of the nation. Unfortunately such needs are not being met. As far as technically trained personnel (engineers and scientists) are concerned, less than half of our yearly needs of 100,000 is being produced. This is especially distressing when one realizes that the Soviet Union is producing over 125,000 engineers and scientists every year. The annual need for high-school science teachers is now about 7000. Yet, less than 5000 are being trained to meet this need. The number of high-school science teachers needed annually by 1960 is estimated to be about 10,000. The available number may even be less than that of today. Consistent with these disturbing facts, is found a lay population that is scientifically illiterate. Each year, in the United States, over one hundred million dollars are spent on pseudo-sciences such as fortune-telling, phrenology, and astrology. Although long since discredited completely, these pseudo-sciences are featured in many large city newspapers and are read by the credulous. Magazines and news commentators report fantastic stories about "Flying Saucers"—stories that are swallowed "hook, line and sinker" by the gullible. Others hint darkly about "atomic dust" that "pockmarks" windshields of automobiles. Every year over three times as much money is spent in the United States on patent medicines (most of which

are useless) as on prescriptions. More recently one notes the chlorophyll craze, even to the extent of using it in dog food to keep Rover smelling sweet. Little thought is given to the fact that goats and cows (not noted for pleasant odors) consume a large daily ration of the "green stuff."

It is logical to ask why such a situation exists. Certainly it is eminently reasonable that an answer should be forthcoming. This writer would like to postulate that the major reason is that science is not generally considered as being a fundamental in the elementary-school curriculum. Thus by the time the student reaches the secondary school his perceptions of education do not encompass science and his attention is directed to other subject-matter areas. There is much evidence to support such a postulate. For example, the teacher of high-school mathematics expects the student to learn many mathematical skills in the elementary school in order to learn high-school mathematics successfully. The same is true for English, and social studies. Yet it is well known that few teachers of high-school science rely on the skills developed in the program of elementary-school science as foundations for high-school science. Often high-school teachers have been heard to state that "the less elementary-school science they have the better. There is less I have to unteach."

Science, a Unique Subject of Study

The underlying cause for the entire situation is probably based on the fact that science is unique as compared with other curriculum areas. For example, it is common knowledge that children learn most effectively from direct experiences. In the field of mathematics, a pattern of direct experiences can be developed into a curriculum on a statewide, or into series of textbooks almost on a nationwide basis. This is true since the direct number experiences that children encounter in the various areas of the United States are somewhat common in nature. The direct experience a child has with a dozen eggs in Kansas is little different from those children have in other states. The same can be said for many other direct number experiences as well as communications experiences. Thus teachers can be aided in their teaching in these areas by statewide courses of study and other publications.

However, the physical and biological environments of children may differ greatly at distances of as little as ten miles. Hence for various geographical areas one may not find a common fund of direct experiences that can be used for teaching all areas of science, and in some cases not even for a few. Hence courses of study, textbooks, and other published materials for science often tend to be somewhat exotic for the users. Many topics of science they contain are alien to the day-to-day living of the students for whom they are allegedly designed. Thus the burden for organizing direct experiences for science rests on the teacher to a much greater degree than for other areas of subject-matter. Since few institutions that train elementary teachers offer subject-matter courses in science designed to help them teach elementary-school science, the burden becomes especially great.

The Real Fundamentals of Elementary Science

Such views may well suggest to many that there is no hope for elementary science, This would be most erroneous and unrealistic. The realistic view is ob-

tained by focusing on the real fundamentals of elementary science. These fundamentals are not the day-to-day experiences that a student encounters in science, any more than the problems a student "works" in mathematics are the fundamentals of mathematics. It is true that some science educators have tried to cull from the many possible experiences for elementary science those deemed to be fundamental. Their efforts have failed. These experiences are merely means by which the fundamentals are attained. In elementary science the fundamentals are these:

1. The ability a student develops in understanding and applying the major principles and ideas of science that are related to his daily living.

2. The development of habits and attitudes of critical thinking toward scientific experiences and phenomena.

3. The growth of skills in applying logical and rational techniques in solving problems that involve science (or other areas).

It is obvious that the facts a student learns and the science experiences and activities in which he participates are means by which these fundamentals are attained. It is obvious also that the more facts and experiences one has, the more successful he is likely to be in accomplishing the fundamentals. However, in view of the time and facilities available for science one must take cognizance of the law of diminishing returns. The fundamentals just named are not concomitants of the mere learning of facts. It is a well-known psychological principle that in order to learn effectively, specific efforts must be expended by the learner in the direction of the desired learning. As efforts become less directed, learning increments are reduced.

What is Required of the Teacher?

Thus, while it might be desirable for a student as a result of his study of science to know all the scientific facts that exist and how to apply them, such is not remotely possible. This is impossible even with respect to a small segment of the sciences. It becomes necessary therefore for the teacher to devote a portion of the available time to providing factual experiences that relate to the apperceptive mass of the student. Also, some of the time must be devoted to experiences in which the student applies the facts, and thinks critically about their uses in solving scientific problems. This will involve without doubt a great deal of compromise as to the allocation of time. Neither will ever be accomplished as much as the teacher desires. Here one may well ask what such a program of fundamentals would require in terms of instruction. This question is also eminently reasonable and deserves a considered answer.

1. The science program in the elementary school must emphasize the training and skills that one considers desirable rather than the acquisition of "essential" facts. There are indeed few facts of science that are indispensable in the training of elementary children. Further, the facts that are learned are quickly forgotten unless they are related to the student's daily experiences or apply to the major ideas of science that are used consistently by the students. One must remember also that "essential" facts have different degrees of essentiality depending on the biological and physical environments of the child. The facts therefore are best considered as *tools* that train the child to analyze and apply the experiences he meets in his daily living, and to draw generalizations and conclusions from them.

2. The science program in the elementary school should be articulated from grade to grade on the basis of the growth of students in developmental skills of science, not on the basis of an orderly accumulation of a logical sequence of facts. One cannot teach science in the fifth grade on the assumption that certain scientific facts have been learned in the fourth. Again this is related to the factor of direct experience already discussed, as well as to the frequently inadequate science training of elementary-school teachers. However, it is reasonable to expect that the skills of observation and of analyzing data, the abilities involved in setting up simple experiments and drawing conclusions, and the development of scientific attitudes such as lack of prejudice and suspended judgment can be expected to grow from grade to grade. Thus the program of elementary science must be articulated and show continuity in these respects.

In order to reach the goals implicit in 1 and 2 above, definite changes will have to take place in present instructional practice. Some of these changes are in and of themselves fundamentals. They are as follows:

1. Teachers will need to read journals such as *Science Education* to learn about the major ideas of science that are important in the training of elementary-school children. They will also need to learn the scientific attitudes and problem-solving skills that are important scientific objectives. To many this may be a novel view of the teaching of science since to such persons the fundamentals of science still connote the study and identification of the parts of insects, the collection of rocks, the pressing of leaves and the memorization of the periodic table.

2. The learning experiences must be selected on the basis of the extent to which they (a) contribute to the development of the objectives just stated, and (b) are present in the environments of the children. They cannot be chosen because they are deemed essential by a textbook or are so designated by a university professor who has had little experience with the learning processes of children.

3. The program of demonstrations and experiments must be changed radically from "show them" demonstrations and "cookbook" experiments to one in which real problems are posed and in which children have questions to which they must seek answers. This is indeed a marked contrast to demonstrations to which students are merely an audience and to experiments that involve only the following of directions and the recording of results, many of which they know in advance. The experiences must become *investigative* in nature rather than *illustrative.*

4. Field trips must be developed around activities in which the students explore the locale to obtain information for answering scientific questions, not merely hike over an area and listen to a teacher discuss the characteristics of specimens that are encountered. Trips on which students collect specimens seldom turn out to be more than scavenger hunts after which the objects of the search are impounded in dusty boxes and forgotten.

The fundamentals of science therefore are not static facts nor atomistic experiences. The fundamentals represent both objectives that are psychologically sound and the dynamic instructional procedures that motivate students to observe, investigate, think, generalize and draw conclusions. Thus the fundamentals are not eternal monoliths. Rather they are the ever-developing and changing means by which students become adept at understanding, interpreting, using, and modifying their biological and physical environments.

Fundamentals in Arithmetic

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If one accepts the principle that the basic purpose of public education should be to prepare children for life in our society, then a fundamental becomes any skill, fact, concept or attitude which is essential to democratic citizenship. Since, in order to meet the demands of daily social living, it is essential for all citizens to have at least a working knowledge of the basic number processes, knowledge and skill in arithmetic may be classified among the various characteristics essential for democratic citizenship. It is then a fundamental. For this reason teachers today are not asking whether or not the public schools should teach arithmetic—this is taken for granted. Their questions are more directly aimed at determining the most effective teaching procedures to be used in helping children acquire this fundamental. This article is designed to offer some suggestions with regard to those questions most frequently asked concerning methods of teaching arithmetic.

PURE TYPE METHODS OF TEACHING ARITHMETIC

In science a pure or standard type is sometimes used to provide a comparative foundation for the analysis of newly discovered phenomena. For instance, in physics there is a pure musical tone. Those who are not students in this field are sometimes surprised to find that there is no naturally existent tone which is identical to a pure tone. However, a knowledge of pure tones helps physicists in determining the characteristics of the naturally existent ones. Pure or standard types are similarly used in such fields of study as political science, sociology, economics, and most recently in education. In the discussion which follows three pure type methods of teaching arithmetic will be described. It should be understood that none of them exists in its pure form in practice. Indeed most classroom teachers are using elements of all three pure type methods. However, since there are many variations of teaching methods in arithmetic, a discussion of these three pure types should provide for the examination of the effective and ineffective characteristics underlying many outstanding elements of arithmetic teaching method.

PURE TYPE DRILL METHOD

Probably the most commonly known pure type approach to the teaching of arithmetic is the *drill method*. The essential characteristics of this pure type approach are found in the following suppositions: (1) Arithmetic is primarily a tool insofar as pupils are concerned, and they must all acquire skill in the use of this tool. (2) There is an orderly sequence in which these skills should be acquired. For example, the total interrelated content of arithmetic should be segmented for presentation into various parts: counting, addition, subtraction, multiplication, division, fractions, and decimals. (3) Explanation, demonstration, and drill should be the basic instructional procedures.

Those who support this pure type method do not feel that it is necessary for children to understand the interrelationships among the various segments of arith-

metic since for them it is primarily a skill—not a content subject. Thus, as the child's maturity increases he is introduced to each of these various processes in what is thought to be a logical order. In this approach instruction is not left to chance. There is a planned arithmetic period which in most cases is scheduled daily.

In the drill method it is assumed that the logical procedure is to tell children the facts and rules for each process. No attention is given to inductive thinking—encouraging children to discover facts and processes for themselves. Memorization of facts, processes, and steps is considered an efficient teaching procedure, and it is assumed that quantitative concepts are acquired through the manipulation of numbers. Also, because of the accepted underlying principles, teachers using this approach would find themselves guiding children in the solving of computational problems prior to the solving of word problems. Here the reasoning is that the child must first learn the skill—then he must be shown how to apply it.

In the pure type drill method motivation is most frequently extrinsic. That is to say letter grades, gold stars, and posting of "excellent" papers is a common practice. It is thought that since the child cannot use the forms of arithmetic which he is learning that he must have these other reasons for acquiring the skills. Some advocates of the drill approach hold that the form of motivation should be that in which the child learns arithmetic because he likes arithmetic. That is, he looks upon arithmetic as part of his social-physical environment, and as such he is curious to learn more about it.

Pure Type Incidental Method

It will be recognized that the pure type drill method is characteristic of the kind which has been used in education for several generations. Near the turn of the century another, seemingly opposite viewpoint, was expressed. This approach may be called the pure type *incidental method*.

Certain characteristics of this pure type approach parallel those of the drill method, but others differ radically. Supporters of this theory would hold, along with those supporting the drill approach, that arithmetic is primarily a tool insofar as the pupil is concerned, and that skill in the use of this tool must be acquired. However, they hold that the correct sequence for the presentation of the elements of this tool is dependent upon the interests and needs of the child rather than upon logical organization. It is their opinion that the child will become interested in arithmetic when he feels a need for it, and that it is at the point of realized need that a particular process is most effectively presented.

A classroom teacher employing this approach would not have a scheduled class period in arithmetic. He would teach it incidentally. Should a child have an interest in a particular process for a specific purpose and the ability to learn it, it would be taught. Such might be the case when a child seeking to buy a new bicycle needs to know how much more he will have to save in order to purchase it. Or, the situation could be present when a child who has a newspaper route needs to know how to keep his accounts.

The form of motivation used in the pure type incidental method is extrinsic but of a different kind than that most used with the pure type drill method. The purpose of the child's activity is not to learn more about arithmetic nor is it to obtain a coveted gold star or letter grade. In this case a knowledge of arithmetic is essential

to the achievement of a desired goal. For example, the child wants to buy a bicycle. This is his goal. If he must earn the money to purchase it and must make the purchase himself he must know some arithmetic. Arithmetic then becomes a barrier to the achievement of the goal. In this case the child is interested in getting sufficient skill in numbers to achieve the desired ends. He does not necessarily need or want to know how the formula is derived. He wants the right formula given to him and the skill to use it.

The Pure Type Meaning Method

Fairly recently in educational method teachers have been turning toward an approach described here as the pure type *meaning method*. Although this constitutes a recent trend in the teaching of arithmetic the writer knows of no teachers who are endorsing it to the exclusion of elements of the other two pure type theories mentioned. The essential characteristics of this approach are as follows: (1) Arithmetic is an integrated whole and should be taught as such. That is, children should be helped to understand the interrelatedness of the various processes. (2) Inductive procedures rather than deductive procedures should be used in teaching arithmetic. That is to say, children should be led to discover the meanings of the facts and processes. Explanation, demonstration, and drill are therefore considered somewhat ineffective techniques. (3) Arithmetic is a part of the child's physical and social environment, therefore the type of motivation to be used is that in which the child wants to learn more about arithmetic because he enjoys exploring his environment.

Were one to apply this pure type approach there would be a special class period set aside for arithmetic the same as would be provided in the pure type drill method. Effort would be made to keep children constantly aware of the interrelatedness of the various number processes. Therefore, in the first years of school, the child would start all processes at about the same time. He would learn that addition is another form of counting, and that multiplication is just another, more rapid, form of addition. Also he would learn that subtraction is something like counting backward, and that division is just a special case of subtraction. Fractions and decimals would be started early and would be learned in their relationships to those processes just mentioned. The presented content would of course be matced with the child's level of understanding just as would be ideally the case in each of the other pure type methods.

In the pure type meaning method much time would be spent on having children discover for themselves the steps to be used in solving various number processes and problems. For this reason analysis of the word problem becomes the first step in presenting new understandings. Much time is spent on word problems before the abstract computational problems are presented. Also, in the early stages of learning, considerable time is spent in helping children develop quantitative concepts. Many devices are used: counting and manipulating real objects, dealing with models, working with pictures, making representative symbols, and finally attempting to understand and employ abstract quantities and processes. Ideally no child would proceed beyond the point at which he understood the meaning of the processes or quantities with which he dealt.

Criticisms of Three Pure Type Methods

The major criticism of the pure type drill method is that it is inefficient. Since it has been the basic approach for several generations one cannot claim that it will not work—even if learning has been somewhat in spite of these procedures it is evident that learning has occurred to the extent that most adults today are able to solve simple number problems with reasonable effectiveness. However, the weakest feature of the approach, according to learning theorists, is that skill in the manipulation of numbers, without understanding, is not long retained unless it is constantly used. One may illustrate this by asking an individual who has not recently studied the procedures for finding square root to work a problem in which square root is required. The procedure most commonly used to find the square root in this case is usually a trial and error approach. This may be explained by the fact that the individual has learned the meaning of square root but has forgotten the computational process primarily because he never fully understood it. Similar illustrations may be made by having adults work problems involving division of fractions or compound interest.

Another criticism of the drill approach is that the most frequently used form of motivation is ineffective. If a pupil achieves a task in order to obtain a particular letter grade, a gold star, or like goal, there is a tendency for him to forget the learning once the goal is achieved.

With regard to the pure type incidental method the major criticism is that it is impractical. Most practitioners agree that there are an insufficient number of interests expressed by children to facilitate such an incidental program. Also, because of the nature of classroom instruction such a laissez-faire method tends to leave arithmetic to chance. Thus, it is not taught effectively. Critics of the incidental method often point out that interests are learned, and thus, children should be taught to be interested in numbers.

Most teachers who have studied the nature of the meaning method hold that its essential characteristics should eventually become the basic principles for methods of teaching arithmetic. They maintain however that evolution rather than revolution must be the pattern for change in teaching procedures. Also, they maintain that drill is a necessary aspect of all skill teaching—even if the development of a concept or skill is preceded by understanding. In addition to this some teachers question the motivational aspects of the pure type meaning method. It is their opinion that they would ideally have all children study arithmetic to more fully explore the social-physical environment, but in practice it is found that despite the teachers' efforts there are always some who do not enjoy a particular subject to this extent. Therefore, they maintain that in some instances extrinsic rather than intrinsic motivation may have to be used.

Current Methods of Teaching Arithmetic

Teachers today are calling upon each of the pure type methods described here in order to maintain an effective instructional program in arithmetic. Although the basis for instruction is most frequently found in the pure type drill method there is a strong trend toward the use of the principles underlying the pure type meaning method.

Probably the most frequent adherence to the drill method is found in the insistence on the part of teachers that although meaning is important, the arithmetic combinations must be learned to the point of spontaneous response. For instance, they would maintain that the child who has learned that six groups of seven particular objects totals forty-two of the same, and that seven groups of six particular objects also totals forty-two of the same, has not finished his task. He must, for efficient use, eventually reach the point in learning where he spontaneously responds "forty-two" to the stimulus "six times seven" or "seven times six." This then becomes a case for drill.

In most instructional situations elements of the pure type incidental method are being practiced. Today, if a child has need of a particular arithmetic process, and is capable of learning it, there are few teachers who would not take time to help him learn it despite the fact that it occurs in the course of study for an advanced grade. Most teachers are of the opinion that if the child has need for this information now, and is capable of acquiring it; now is the time to teach it. Also, one frequently finds that in kindergarten and in primary grade instruction arithmetic activities are of a kind which may be termed *planned incidental*—a correlate of the incidental method. Such activities are planned by the teacher but appear incidental to the children. Such might be the case in a kindergarten when the teacher asks a child to go to the supply cabinet and get enough paper so that each pupil at his desk has two sheets of paper. This activity serves as an experiential foundation for understanding such processes as multiplication, division, and fractions. It appears incidental to the child, but it was anticipated by his instructor.

With regard to the use of elements of the pure type meaning method teachers are finding greater efficiency in instruction when children better understand the meaning in arithmetic. Probably the most concrete evidence of the incorporation of the meaning method in current instruction is the increased use of instructional devices. In classrooms it is not unusual to find counting sticks, an abacus, a counting board, sets of beads, fraction wheels, flannel boards or graphs, and many other devices in use. Teachers who are using these devices cannot help but be trying to guide children in understanding the meaning which underlies the processes being presented. Also, it is frequent that teachers who have helped children discover their own rules report that these children are less confused than previously when selecting effective procedures for solving word problems.

Summary

Although teachers today are agreed that arithmetic is a fundamental for our times, there are many questions which they raise with regard to instructional procedures. This article has offered information and suggestions designed to be helpful in answering some of these questions. Three pure type methods of teaching arithmetic were presented. It was pointed out that arithmetic instruction today does not reflect any one pure type method. Most teachers are incorporating elements of various pure approaches in developing their arithmetic programs. However, the trend is in the direction of the increased use of principles which underlie the pure meaning method. In accordance with this trend more use is currently being made of teaching devices than has previously been the case.

Fundamentals in the Social Studies

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In examining the topic, Fundamentals in the Social Studies, it seems desirable to consider two aspects. First, is social studies one of the fundamentals for children of our time? Second, assuming that social studies is a fundamental, what are the social studies fundamentals?

Before considering these two questions directly it is necessary to understand what is meant by the social studies. To many, this may seem obvious and unnecessary, however, the term does not mean the same thing to all people and considerable confusion does exist as to the difference in meaning of such terms as social studies, social education and social learning.

Social Studies Defined

The term "social studies" designates a field or area of the curriculum consisting of the school subjects that deal with human relationships and includes history, government, sociology, economics, and geography. It is the collective term applied to the instructional materials which deal directly with human beings and their relationships, with man and his environment and the interactions between these. Such materials as those dealing with the processes involved in making a living, the means of organized individual and group control, and adapting to and utilizing the environment, constitute the materials of the social studies.

An indication of some of the misconceptions concerning the term social studies may help to further clarify its meaning. Social studies is not a term restricted to only those courses which are a fusion of two or more subjects such as history and geography. Also, the term does not imply complete fusion or the removal of all subject boundaries within the field. It does not mean only the contemporary social subjects, that is political science, economics, sociology, and geography minus history. It, also, is not an all inclusive term embracing all subjects and materials that have a social purpose. It is a term comparable to mathematics or language arts.

"Social education" is a broader, more inclusive term than is social studies, for although it sometimes is used synonymously with social studies it refers to all phases of the curriculum that contribute to the development of the personality and competencies necessary for democratic living. "Social learning" is a broader term than either of the foregoing. It includes all of the experiences which the child has which contribute to his social growth and development in or out of school.

Are the Social Studies One of the Fundamentals?

Social Studies were not one of the original three R's, however, that has little bearing on our question since the present day conception of what constitutes the educational fundamentals for children is vastly different from that implied by the three R's. Ours is a democratic way of life, the preservation and further improvement of which requires the highest type of democratic citizens. Our schools, therefore, must have as their primary purpose the preservation and extension of the democratic ideals and the development of the highest type of democratic behavior possible on

the part of our present and future citizens. The fundamentals then no longer consist of only the three R's, but rather, of all those experiences, activities and materials, which are essential to the optimum development of each child's personality and to maximum growth in the competencies essential to democratic living. These essential experiences, of course, are not the exclusive domain of the social studies. All justifiable areas and aspects of the school curriculum contribute to social learning. The materials and activities of the social studies are such, however, that they have a major role to play in education for social living.

Mankind always has been and perhaps always will be faced with problems of great importance and perhaps every generation views its problems as more crucial than those of previous generations. It does seem however, that we today are beset with problems of unusual importance; problems which must be dealt with now. These problems are of such significance that their solution may not merely determine whether we progress more or less rapidly to an even better way of life, but may determine whether or not our way of life continues at all.

A brief mention of just a few of our present day problems will adequately illustrate the above. We are all perhaps aware of the more spectacular world problems which revolve around the use of atomic energy, the threats of war, the existence of conflicting ideologies, and the clashes between nationalism and colonialism. Domestically, we are faced with threats to our traditional rights and freedoms. There is a tremendous lack of active, intelligent participation in civic affairs by a sufficient number of our citizens. Problems concerning full employment, prices, labor management disputes, social security in its various forms face us daily. We have not achieved equality of opportunity for all, sufficiently high moral and ethical standards in government and society, nor optimum use of natural and human resources.

The problems we are faced with today are primarily problems of human relationships. The social studies are, therefore, basic in educating individuals and society for an intelligent and desirable solution of these problems. Social studies then, does constitute one of the fundamentals for children of our time.

What Are the Social Studies Fundamentals?

Having determined that social studies is a fundamental for children of our time, we must still consider our primary question; what are the social studies fundamentals? The term fundamentals is not necessarily synonymous with goals or objectives but it is being so used here. We are concerned with determining what contributions social studies make (or at least should make) toward the preservation and extension of the democratic ideals and the development of the highest type of democratic behavior possible. Stated in another way, we are concrened with determining what contributions the social studies make toward helping to lead the young people of our present society so that they will eventually constitute a society of people which will be able to deal adequately with the problems that face them.

Some Things Which Are Not Fundamentals

Not all aspects of past or present social studies programs constitute fundamentals. We have and still do at times, strive to accomplish some goals which make

little or no contribution to the primary goal of education as given above. We attempt to get the pupils to learn or to do certain things which contribute little to the preservation and extension of the democratic ideals and the development of democratic behavior.

What are some of the aspects of some social studies programs which fall into the above described category and are, therefore, not fundamentals? The following list is illustrative rather than all inclusive and is given here in order to help clarify what the actual fundamentals are.

1. "Getting through" the textbooks or prescribed course of study.
2. Requiring the pupil to memorize as many names, places, and events as possible.
3. Requiring every pupil to read the same number of pages from the same book.
4. Asking detailed questions over every point in the textbook or content outline to make sure the material has been covered.
5. Giving tests which measure only the pupil's ability to repeat what he has read or memorized.
6. Confining the classroom activities to reading and reciting concerning only one source of material.
7. Teacher decision and dictation concerning all aspects of the class.

General Fundamentals

If the above listed items do not indicate the social studies fundamentals, what, then, are they? In order for social studies to make its maximum possible contribution to the primary goal of education it must contribute to the pupils development in four ways: (1) acquiring knowledge and understandings (2) developing desirable attitudes and values (3) forming desirable habits (4) developing necessary skills.

The following paragraphs will treat briefly with each of these fundamentals. Since we have in the past and often still do at present, devote most of our energies to help the pupil acquire knowledge, it is necessary to emphasize that there are additional and equally important fundamentals.

Knowledge and understandings: Contrary to the statements of some present day critics of public education, the acquisition of information concerning human relationships is considered important and is given emphasis in our schools. This, however, does not mean memorizing useless or meaningless facts just for the sake of being able to repeat them. Rather, it means significant information dealt with in such a way as to result in individually formed understandings and concepts on the part of each pupil. For example, simply reading in a book and trying to "learn" such facts as minimum age requirement, number, pay, length of term, date of election, etc., of state and national legislatures; the formal steps a bill goes through in becoming a law; a list of the legislative powers of the President, may have little value for the learner and will be quickly forgotten. However, if this same information, plus considerably more, is studied in an effort to determine how men's ideas get transferred into laws and the student arrives at an understanding of this process he then will have a useful, meaningful understanding and he will also remember more of the information he contacted for a longer time. One of the general fundamentals of social

studies, then, is to help each pupil to acquire knowledge about and an understanding of social, political, economic and geographic concepts and processes as they operate in our and other societies.

Desirable attitudes and values: If our present pupils are to become desirable adult citizens they must develop desirable attitudes and a value system to guide them in their decisions and actions. Knowledge is necessary to solve our problems, however, these problems will not be solved unless individuals have a desire to do so, feel a responsibility for doing so, and are able to work effectively with other people and then make decisions and undertake actions in harmony with a set of values which is in keeping with the democratic ideals. The development of desirable attitudes becomes somewhat of an end in itself in that many of our present problems consist of the existence of undesirable attitudes such as intolerance and racial prejudice. Developing desirable attitudes and habits, then, is a second fundamental of the social studies.

Forming desirable habits: If the education that we provide for our pupils is effective concerning the foregoing fundamentals only, it will still fall short of fulfilling its purpose. Desirable citizens, in addition to having the knowledge necessary to solve problems and possessing such attitudes that they recognize social problems and feel they should be solved, must regularly actually undertake necessary action to solve these problems. Space does not permit a detailed breakdown of this fundamental but it includes such habits as effective study and work habits, keeping regularly informed concerning current happenings, attending and participating in public discussions, arriving at tentative working conclusions concerning current problems, and voting regularly.

Developing necessary skills: This as a social studies fundamental does not include all of the skills that a person should possess. It includes those skills necessary for the location and use of information and for effectively carrying out individual and group citizenship actions. To know and to want to do is not enough; one must also be able to do if undertakings are to be effective and this requires the development of various skills through actual experience and practice.

Fundamentals in Terms of General Goals

The foregoing section dealt with general fundamentals and space does not permit a detailed breakdown of these fundamentals here. A list of social studies goals will, however, partially do this. The following list of goals is representative of those accepted by many social studies departments and does indicate what they consider to be fundamentals.

1. To help each child to acquire functional information and basic understandings in the area of human relationships.
2. To help each child to gain an understanding of how the basic social functions and processes operate.
3. To help each child to gain an understanding and appreciation of the contributions of many groups and individuals to the progress of society.
4. To help each child develop desirable attitudes such as cooperation, concern for the welfare of others, open-mindedness, self-respect, responsibility.
5. To help each child to develop a set of desirable values and to increasingly use these values in determining actions.

6. To help each child develop to where he is guided by democratic values in his relationships with others and understands that sacrifices were made for democracy in its evolution.
7. To help each child to develop an enduring intereset in society's problems and social progress along with a desire to contribute to the solution of these problems.
8. To help each child to develop skills and competency in democratic group-action and inter-group situations.
9. To help each child to gain skill in critical thinking and problem solving.
10. To help each child to develop skill in the use of various materials of instruction and learning.

Fundamentals in Physical Education

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Physical education in present day education helps boys and girls learn through the language of movement. Boys and girls today find their bodies to be their medium of expression just as mankind has through the ages. To learn to live in and with our bodies is one of the continuous problems of life. How to help boys and girls learn effective ways to use their bodies finds a place on any list of fundamentals of education.

Today's teachers and administrators continue to find that the way children play affects their living in the classroom as well as on the playground. As we gain information on how children grow and learn we understand the great need for physical education as a way of education through the body as well as of the body.

Existing practice in elementary education makes it impractical and limited finances often make it impossible for the majority of elementary schools to employ a full time physical education teacher to lead the children in this important phase of their education. Classroom teachers learn much as they observe children at play. Perhaps their greatest concern is how to channel the available playtime at school for its most effective use.

Our concern is to direct attention to the fundamentals of physical education for boys and girls in the hope that those leaders of children may review and perhaps revise their thinking about this important avenue through which children learn so much during their elementary school years.

What Are Fundamentals?

If we adopt Webster's definition of fundamental as being "the essential part," a look at the essential parts of physical education and the unique part they play in the total education of boys and girls in the elementary school today becomes our present concern. The five essentials of physical education include organic development, neuro-muscular skills, group living, feelings, and attitudes toward physical activity, and relaxation.

Organic Development: Vigorous activities form the essential part of the physical education program to help boys and girls develop strong organic systems. Needs differ with individual children and the activities selected must be suited to the individual needs of each child. However, only as a child participates in rigorous types of play does he develop the organic systems of his body. Endurance varies with different children. Yet, each child needs to have his heart and lungs developed to the extent that he may carry out the usual demands of the day without complete exhaustion. Children also need sufficient strength to mainain good body positions or posture. How to use the body to conserve energy and to develop strength is one fundamental of good physical education.

Motor Skills: The present day change in attitude toward motor skills comes after careful scrutiny of the way we live. The value of motor skills was readily apparent years ago when the possession of these skills meant the ability to secure food and to protect one's self from enemies. Today our changed way of living places a different emphasis on skills. Safety, use in recreation and the aesthetic values of efficient body movements give direction and purpose to the teaching of skills.

The way a child moves tells much about him. Since learning with a child is so closely associated with his movements, physical education has an obligation to help children learn efficient ways to move in such activities as walking, climbing stairs, dodging moving objects, running, sitting, and lifting heavy objects.

Many children find themselves several inches taller almost overnight during their late elementary school years. The need to bear with these suddenly changed boys and girls becomes a necessity for many late-elementary teachers. To find that this sudden increase in size does not bring immediate, improved physical ability causes many boys and girls great alarm, particularly the former. Helping these pupils to understand themselves and not become too discouraged with this period of bodily change requires great patience and morale building techniques on the part of their teachers.

Perhaps great variety should characterize physical education to meet the gamut of motor needs of boys and girls in elementary schools today. A tendency to specialize in play at too early an age means that many children fail to explore the possibilities of many different areas of play. The boy, who from his early elementary school days received encouragement for no activities but basketball and football, faces serious emotional as well as physical problems when he reaches secondary school to find that his too small size or his slow reaction time makes it impossible for him to gain the standing he hoped for in these two athletic activities. A broader interest at the time when skills of many different activities can be readily learned by most youngsters, provides such a child with many possible outlets for his physical recreation no matter what his size.

Watch the many different ways first-graders do animal walks, fly like planes and tell their stories through the medium of movement alone. Such tools of self-expression help boys and girls convey their ideas through other than the spoken voice. The child who plays well finds himself a valued member of his group. Good play skills, in addition to giving a child self-confidence, arm him with a valuable tool for later life.

Group Living through Play: Each child is an individual with his own unique background which he brings into his physical education. His inheritance and his

environmental experiences affect the stage in which a teacher views a child. Individual differences in strength, skill, resistance to disease, likes and dislikes, intelligence, educability, memory, visual acuity and auditory acuity affect the way a child moves. Leaders of boys and girls need always to evaluate a child's physical actions in relation to his abilities.

Since children differ so widely in their interests and abilities in play, teachers find the playground an excellent place to view the youngsters and their maturity level in an informal group situation. The child with the better skills usually stands high in the estimation of his peers. The self-confidence developed through demonstrated ability in play gives boys and girls assurance not possessed by the child afraid or unable to hold his own in skills.

The results of certain behavior in play bring such quick and visible results that children, under good leadership, may discover why such good group habits as taking turns, knowing the rules, following the leader, and helping the team, will pay off as worthwhile ways of behaving at play. Physical education classes provide an excellent laboratory in group living where children constantly face consequences immediately following behavior.

Many opportunities to learn valuable lessons in group living appear in team games and relays throughout the elementary years. Games of the soccer, basketball, volleyball and softball types provide elementary aged children with activities suited to their physical and emotional abilities where they can master fundamental skills basic to acceptable play at the secondary level. Primary children start valuable basketball skills, for example, as they develop a good game of dodge ball—ball handling (any basketball pass can be set up as the one for practice), footwork, catching and rudiments of teamwork. Such a game makes it possible for all children in a group to develop. Basketball itself, in addition to being complicated both in rules and in skills makes limited participation necessary because of space and leadership. Thus many children tend to be pushed into the background—often those most in need of practice and encouragement in group play.

Well planned parties offer another opportunity to help children learn desirable social values through a recreational group experience. Allowing children to help plan a party, select and carry out the activities, and assist with the mechanics of organizing and clean-up, help boys and girls learn to live together in ways that are socially desirable at their level of maturity in another recreational atmosphere.

Ideas and Attitudes toward Physical Education: Self-evaluation is continuous, if not always conscious, in a healthy, growing child. The way an activity is carried on, the success or failure of an experience, the climate in which an activity is presented, the attitude of encouragement, indifference or rejection on the part of the leader, all tend to color the attitude of a child. Physical education is no different than any other area of learning in this respect.

Through activities that are well selected, varied, suitable to the child's level of accomplishment, played in a wholesome atmosphere where more favorable than unfavorable conditions exist, children gain a positive attitude toward physical recreation.

Studies of adults show that those who fail to learn physical, recreational skills before the age of fifteen seldom elect recreation of a physical nature later in life. This points up the importance of helping boys and girls gain sufficient skills and desirable attitudes toward physical recreation as a worthwhile tool of living at a time of life when it is comparatively easy for them to develop motor skills.

The thirteen-year-old boy shows an attitude of approval when he flexes his biceps as he glances slyly into the mirror. "Watch me, see what I can do" shows the same interest in self-improvement through improved performance of the six-year-old. With improved performance comes self-assurance, a necessary ingredient of group status. Children tend to like to do the things they do well. The kindergartner first makes hesitating attempts at hanging onto the horizontal ladder. If he finds he succeeds in holding his body weight by his hands and *if* he does not hurt himself when he drops, he usually wants another turn immediately. Otherwise, he drifts to the play activity where he feels safe. At the same time he develops a questioning attitude toward the unsuccessful activity or the one in which he was hurt. The need for good attitudes and ideas of physical activity point up the importance of his fundamental of physical education.

Learning to Relax: The pace of modern living makes the learning of counterbalances to tensions fundamental for children as well as adults. While some authorities tend to stress the correct performance of motor skills as basic to freeing an individual from tensions, many consider the correct learning of motor skills as active. Relaxation belongs with the passive activities. For this reason, relaxation is listed as an important fundamental of physical education that is worthy of separate mention.

The happy child exhibits fewer tensions than does his unhappy friend. This places importance on the selection of activities in physical education wherein each child can find experience that he likes. In addition, every child needs to learn specific ways to rest when he becomes tired, and to learn his own body signals of fatigue. Physical education has a responsibility to help all children with this fundamental of living.

Fundamentals for Achieving the Fundamentals

Certain conditions face any administrator or teacher of boys and girls who seeks to attack the problem of helping children acquire the fundamentals of physical education.

1. Every child needs periodic medical examinations to discover existing physical conditions and to locate any defects that will limit the activities of the children. This information must be made available to the classroom teacher as well as to the parents. As leaders use this information, they can plan with the boys and girls for the kinds and amounts of activities best suited for their needs.

2. A time, set aside each school day for the teaching of physical education, is essential for the achievement of the fundamentals mentioned. This time should fall other than at recess or during the regular recreation period. The time should be spent in teaching, not just playing at random.

3. A place for teaching physical education, along with necessary tools is just as important for this phase of education as books for the teaching of reading. Trying to teach children the successful way to catch requires sufficient balls for every child to have many opportunities during each lesson for throwing and catching. One ball for an entire classroom wastes just as much time in physical education as one book for the same group in a reading lesson.

4. Leaders who see the values of physical education and who are willing to help each child with his problems of learning in physical education are basic for developing fundamentals in this area for children of our time.

Fundamentals in the English Language Arts

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If one were to ask a random sample of Americans what the fundamentals are which the school must teach, "the three R's" would probably lead the list of varied answers. Yet, there is no assurance that even two people mean the same thing when they mouth this well-worn phrase. A word such as *reading,* for example, doesn't necessarily have the same connotation even among those who champion its importance to the school curriculum; and writing, to those who coined the phrase, meant penmanship and not writing in the sense of written composition. Even arithmetic, exact as the science of numbers may be, might mean the ability to excel in the four fundamental processes to some while to others this would represent only a small part of that which is considered important in this subject. And, of course, anyone who reflects but a moment upon the difference between our own society and that which the three R's were meant to serve cannot help but conclude that the three R's are certainly not enough for our youth today no matter how broadly the meanings of these three words may be spread.

From such a relatively limited term as reading, an expanding subject of study has developed which is known today as the English language arts. Since this term is the title chosen by the National Council of Teachers of English for its first volume in the curriculum series prepared by the Commission on the English Curriculum,[1] it has been used here as the most recent descriptive term of this area in the school's program of studies. It is more inclusive, certainly, than many terms used in the past: rhetoric, language, literature, and more recently, English. Briefly, by definition the English language arts may be said to include reading, writing, speaking and listening. While the word *English* may seem superfluous, it has been retained because it helps to differentiate this type of study from other languages that are also taught in the schools.

It will be the purpose of this article to consider each of the English language arts in some detail, indicating briefly what some of the most important fundamentals are for each of them. Then, after having considered each of the language arts separately, it will be important to consider their relationships and the possibilities of integrating them in classroom teaching.

Reading

It is doubtful if anyone would challenge the inclusion of reading among the fundamentals to be taught to children in America. In a democracy, reading is an especially important skill, for, without it a person would be unable to discharge the duties and responsibilities of citizenship. Also, reading is basic to learning in other subjects in the curriculum as well as in later life after the student has finished his formal schooling. The problem, then, is not whether reading is fundamental.

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[1] Commission on the English Curriculum of the National Council of Teachers of English. *The English Language Arts.* Vol. 1, NCTE Curriculum Series. Appleton-Century-Crofts, New York, 1952.

Instead, the problem becomes one of trying to indicate, briefly, what some of the most basic competencies are that our students should develop in reading.

First and foremost, the student must be taught to comprehend what he reads. This means that he must be taught not only a basic vocabulary but also some of the methods for unlocking the meanings of new words that he will encounter in his reading. It also means that the teacher must stress the importance of thinking while reading and encourage the student to try to associate what he already knows with that which is being read. In this connection, it is important to note that the school must carefully watch the materials it uses lest they become so easy that they provide no mental challenge to the student or so difficult that the student gives up in disgust.

Secondly, it is important that the student be taught how to become a flexible reader. Rather than teach him to attain a certain reading speed, we should teach him how to skim so he can find a fact quickly, how to read slowly and carefully so he will learn how to note significant details, and how to pace his reading when he merely wishes to gather the central or main idea of a paragraph or article. The important thing is that the student be able to adjust his reading speed to the purpose for which he is reading. Some will acquire this skill without being instructed, but the vast majority will need specific instruction and practice.

In the third place, no reading program would be complete if it were limited to what might be called work-type or expository material. Our students must become acquainted with all types of literature and learn the special techniques that are necessary in reading drama and poetry, to name but two of the most difficult types. In the field of literature it is fundamentally important that our boys and girls read widely rather than study just a few books intensely. In a wide reading program, the teacher will be able to teach students to compare different writers and thus develop standards of judgment. In this way they will learn to discriminate between the good and the mediocre in literature.

Finally, in order to realize the above, two necessary requirements must be fulfilled. First, the school must plan its budget so that many reading materials of all types are made accessible for boys and girls of different age levels and reading levels. Second, teachers who are well read in "children's literature" and in the "literature for adolescents" are fundamental to the success of a wide reading program. Many good books plus a teacher who understands books as well as boys and girls will do much toward making reading a profitable leisure time pursuit which the student may carry into adult life. This, of course, is especially important to citizens in a democracy.

Writing

If one accepts reading as being basic for the citizens of a democracy, then one must consider that writing is likewise basic, for the two together constitute a complete cycle of communication. Writing without readers is of no value except as it may serve as a release of certain feelings for the writer or provide him with the opportunity to crystallize his own thinking. In too many writing situations in school, communication doesn't exist because the child writes all or nearly all of his written compositions for no other purpose than that of fulfilling an assignment. Too often it then becomes a case of having to say something rather than having something to say. Certainly it is fundamental that the school teach writing as part

of the cycle of communication and try its best to provide real situations for writing with a greater circle of readers than the teacher of the class.

To many, the teaching of grammar is so much a part of the teaching of written composition that the first semester in many English courses is labelled "Grammar and Composition." The important issue is whether it is the grammar or the composition that is more fundamental. Some teachers prefer to teach a number of grammatical facts and then follow this teaching with the writing of compositions. Others would reverse the process by starting with the writing of the students first and then determining their greatest needs. Then, both remedial and developmental instruction would be provided before the next compositions are written. In either approach it is obvious that grammar is only a means to better writing and not an end in itself. Therefore, it is fundamental that numerous writing experiences be provided and that those grammatical facts should be taught which will function in better writing.

It is important, in this connection, to note that many teachers as well as the writers of textbooks will have to begin to purge English courses of non-essentials. For example, the distinction between the dative and accusative case no longer exists among the inflections of modern English, yet, in many English classes students are still spending a considerable number of man-hours each year in trying to master the difference between the direct and indirect object of a verb. The fact that such distinctions are important in other languages is no reason for the English teacher to teach them; they must be taught by the teacher of the language in which these distinctions still function. Thus, it is fundamental that the teacher be sufficiently enlightened to teach twentieth century English. Purging our courses of non-essentials in grammar will provide more time and thus more opportunity for additional instruction and practice in writing which is, of course, the most fundamental need, if boys and girls are really going to write well. Other essentials such as spelling might then be given more attention in the extra time that will thus become available.

Finally, it is fundamental that the teacher locate those usages among the students which are classified as substandard English. These must be attacked directly and considerable drill must be provided to eliminate "I done," "the man he," "we was," and "ain't," to name but a few. Many such errors will appear more frequently in oral English than written English. This suggests the need for more extensive practice in oral English so that crucial errors can be eliminated.

Speaking and Listening

Much of what has already been said of reading and writing could apply also to speaking and listening. These two language arts constitute a cycle in communication just as reading and writing do although the medium is spoken language rather than written language. For that reason, speaking and listening are considered here together rather than separately.

To begin with, the reader must realize that speaking is a relatively recent addition to the language arts program. An even more recent addition is listening; therefore, there has been much less research completed in these two areas.

One of the chief objections to including speaking activities in the English program is that they are too time consuming. If speaking experience is fundamental, then class size will have to be adjusted to make more numerous speaking experi-

ences possible. It is reasonable to believe that if the nature of the subject is such that it can't be taught well with more than twenty students in a class, then, more sections will have to be scheduled and more teachers employed to teach them. It is a matter of simple arithmetic: as the number of students in the class increases, the amount of time available for each student to obtain speaking experience decreases. Furthermore, creating the special class in speech in the high school is no solution, for only a small minority of students are reached in courses of this type. For the vast majority it is a case of getting training in speaking in the English class or not getting any at all.

Another problem presents itself in the fact that speaking experiences in many classes are limited to the solo type of performance known as "the oral talk." The versatile teacher realizes that much can be accomplished and much good practice obtained in small group discussions where as many as five different groups may be discussing a problem at the same time in different parts of the room. Also, the panel style of presentation before the class is especially valuable for students who find the "solo" type of performance a bit frightening. Certainly a variation in the types of oral experience offered in the classroom is desirable.

Some teachers believe that they have discharged their responsibility when speech training has been given and speaking experience provided. Today, however, the teaching of listening is considered to be an integral part of the speaking process. This means that students must be given actual lessons in listening. One of the simplest types would be the practice session in which one student gives a talk containing certain facts. Afterward, through either an oral or written quiz, the other students would be able to evaluate the accuracy of their listening. Similar lessons could be given in which the listener's job is to distinguish between main and subordinate ideas. Also, during a series of speeches given by students, the teacher may stop at any point to show how a certain speech is either a good or an inadequate example of communication; for example, in the good speech the speaker's ideas are presented well and the majority of the listeners have captured them, but, in the inadequate speech, communication has broken down because either the speaker was ineffective or the audience was not alert in its listening.

Certainly a skill such as critical listening is fundamental in a democracy. It is unfortunate that most of our students who have developed this skill have acquired it through some means other than school instruction. It is also unfortunate that there is no quick and easy way to teach it. However, there is much that we have already learned about teaching critical reading that can be applied to critical listening: the importance of noting the sources of information, the application of principles of logic and reasoning to the arguments presented, the ability to detect bias in presentation, the active association of previous knowledge of a subject with the presentation that is made, etc. But, we must recognize that it is more difficult to develop a critical listener than a critical reader. The nature of the listening process is such that it ordinarily doesn't permit a person a second opportunity if he misses the point the first time. In the controlled learning situations that are possible in the schoolroom, however, a persuasive speech could be recorded while it was being delivered, and after the class had attempted an analysis, the recording could be played to show the students important facts and materials that they had missed. Numerous experiences of this type will develop the active, critical listeners that are needed in a democratic society.

Integrating the English Language Arts

As this brief examination of fundamentals in the English language arts has unfolded, the reader probably has become increasingly aware of the interrelationships among reading, writing, speaking and listening. While it is true that some teachers prefer to teach each of the English language arts separately, it is vitally important to consider the value of teaching them in varying combinations.

The communication concept has already been examined in this article. Certainly reading and writing provide many opportunities where each skill may enrich the other. This is probably even more true of speaking and listening, for one without the other is impossible if communication is to take place.

It is fundamental to note that one can teach certain skills better if the language arts are taught together. For example, outlining has been taught most frequently as a part of written composition. If outlining were first taught in relation to speaking and also taught in relation to note-taking in reading as well as in listening, the student would become aware of its importance as a skill to be learned. It is in ways like this that the language arts can enrich each other and produce mastery of a skill.

It is likewise true that there is certain subject matter that cannot be taught effectively unless the language arts are brought together. It is impossible to show students how formal and informal standard English differ without showing also how each is handled in speaking as well as in writing situations. If learning is to take place, practice of both types should follow. A deeper and more complete knowledge of each type is thus dependent upon knowing the characteristics of the other as well as the occasions when one or the other should be used.

One additional final point needs to be emphasized. Many who believe that the English language arts must be integrated also consider it fundamental that teaching must be done by the unit method. In this approach, divisions such as one semester of grammar and composition and another of literature would disappear. Instead, all of the language arts would be taught throughout the school year within the framework of broad units of instruction. It is fortunate for the teacher that numerous suggestions for unit teaching have been provided in the first two volumes of the Curriculum Series of the National Council of Teachers of English.[2,3]

In conclusion, it is obvious that even though the fundamentals which have been listed in this article are not all-inclusive, they do show the tremendous growth that has taken place in the English language arts since the days of the three R's. If this were not so, the schools would have been insensitive to the needs of the society which they are dedicated to serve. Certainly the program of study must be more extensive today because the needs of the mid-twentieth century are more extensive. Furthermore, the most important fundamental of all is that the English language arts must never be allowed to become static but must change with a developing society and thus prepare the student to meet the demands of the society of which he is a part.

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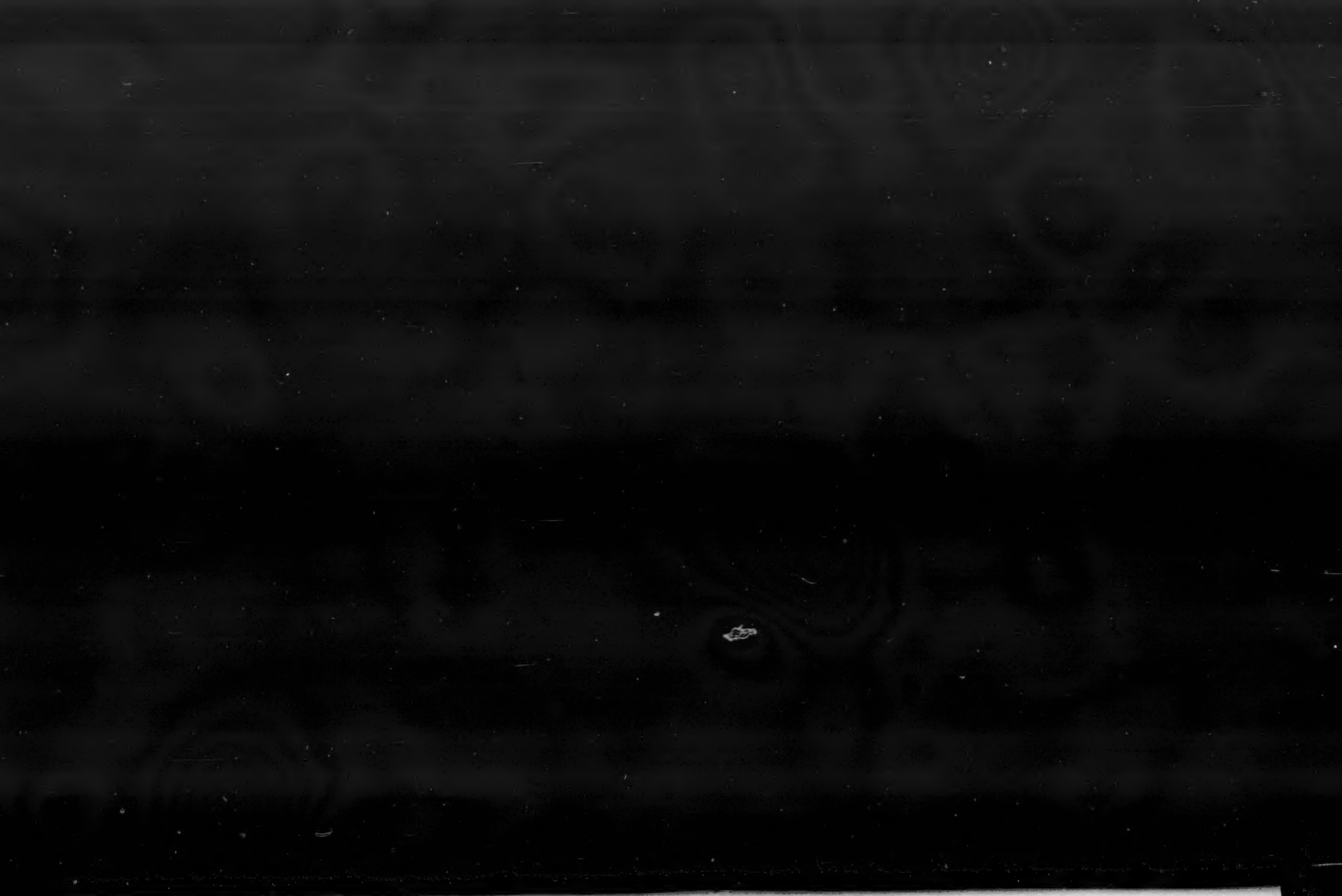
[2] *Ibid.*

[3] Commision on the English Curriculum of the National Council of Teachers of English. *Language Arts for Today's Children*. Vol. 2, NCTE Curriculum Series, Appleton-Century-Crofts. New York, 1954.